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Legacy report on the 1997 *Uniform Building Code*™**DIVISION: 07—THERMAL AND MOISTURE PROTECTION**  
**Section: 07180—Traffic Coatings****MER-KO SHUR DECK ROOF AND WALKING DECK SYSTEM****MER-KOTE PRODUCTS, INC.**  
**501 SOUTH VAN NESS AVENUE**  
**TORRANCE, CALIFORNIA 90501****1.0 SUBJECT**

Mer-Ko Shur Deck Roof and Walking Deck System.

**2.0 DESCRIPTION****2.1 General:**

Mer-Ko Shur Deck is a cementitious roof and walking deck system for use over plywood substrates. The system consists of a reinforcing metal lath, two trowel coats of a cementitious mixture, a flexible latex waterproof membrane and two coats of a pigmented acrylic sealer. The overall average thickness of the system is  $\frac{3}{16}$  inch (4.8 mm). The system has a Class A roof classification.

**2.2 Materials:****2.2.1 Plywood Substrate:**

Nominal  $\frac{5}{8}$ -inch-thick (15.9 mm) (minimum) exterior-grade plywood complying with UBC Standard 23-2 or 23-3 must be installed in accordance with the 1997 *Uniform Building Code*™ (UBC). All plywood edges must be blocked.

**2.2.2 Metal Lath:** Galvanized expanded metal lath having a minimum weight of 2.5 pounds per square yard (1.36 kg/m<sup>2</sup>) must comply with ASTM C 847.

**2.2.3 Staples:** Corrosion-resistant, minimum No. 16 gage staples must be a minimum of  $\frac{5}{8}$  inch (15.9 mm) long and have 1-inch (25.4 mm) crowns, complying with ASTM F 1667.

**2.2.4 Shur Deck Compound:** A dry blend of portland cement and silica sand, packaged in 50-pound (22.7 kg) sacks. The product must be kept dry. Shelf life is one year from date of manufacture when the material is stored at a temperature between 35°F and 120°F (2°C and 49°C).

**2.2.5 Shur Deck Mastic:** A latex paste packaged in 5-gallon (18.9 L) plastic pails. The product must be kept from freezing. Shelf life is one year from date of manufacture when the mastic is stored at a temperature between 35°F and 120°F (2°C and 49°C).

**2.2.6 Mer-Ko Seal:** A pigmented acrylic sealer packaged in 5-gallon (18.9 L) plastic pails. The product must be kept from freezing. Shelf life is one year from date of manufacture when the sealer is stored at a temperature between 35°F and 120°F (2°C and 49°C).

**2.3 Preparation of Plywood Substrate:**

Plywood substrate must be structurally sound, clean and dry, and free of dirt, dust, oil, grease, paint or other contaminants. Substrate must be sloped a minimum of  $\frac{1}{4}$ :12 (2%) for proper drainage, and must be installed with the plywood sheets lying lengthwise across the supporting joists.

**2.4 Installation:****2.4.1 General:**

The acceptable temperature range for application of the Shur Deck Compound, Shur Deck Mastic and Mer-Ko Seal is between 35°F and 120°F (2°C and 49°C). The materials must not be applied if precipitation is occurring or expected.

**2.4.2 Metal Lath:** Metal lath is installed with the seams butted together and not overlapped. Lath must be installed over metal flashing, stopping 1 inch (25.4 mm) from any deck edge or vertical junctures. The lath seams must be staggered a minimum of 2 inches (50.8 mm) from plywood joints. A minimum of 22 staples per square foot (238 staples per square meter) is required to attach the lath to the plywood substrate. In addition, the lath seams are attached to the plywood substrate with 12 staples per lineal foot (38 staples per lineal meter), with the staples crossing the seam. Staples must be placed from the center of the lath to the outside edges so as not to form bulges.

**2.4.3 First Trowel Coat:** One gallon (3.8 L) of water is mixed with one 50-pound (22.7 kg) sack of Shur Deck Compound. The mixture is trowel-applied to completely cover the metal lath on plywood substrate. Coverage is a maximum of 45 square feet (4.18 m<sup>2</sup>) per 50-pound (22.7 kg) bag. The coating with a minimum thickness of  $\frac{1}{8}$  inch (3.2 mm) must cure a minimum of two hours (longer in damp weather).

**2.4.4 Waterproof Membrane:** Two coats of Shur Deck Mastic are applied by roller over the first trowel coat. Coverage is a maximum of 100 square feet (9.3 m<sup>2</sup>) per gallon (3.8 L) per coat. Each coat of  $\frac{1}{16}$  inch (1.6 mm) minimum thickness must dry for a minimum of one hour.

**2.4.5 Second Trowel Coat:** One gallon (3.8 L) of water is mixed with one 50-pound (22.7 kg) sack of Shur Deck Compound and is trowel-applied to a thickness of  $\frac{1}{16}$  inch (1.6 mm) over the waterproof membrane. Coverage is a

maximum of 100 square feet (9.3 m<sup>2</sup>) per 50-pound (22.7 kg) sack. The coating must dry for a minimum of one hour. A texture coat identical to the second coat may be applied over the trowel coat, if desired.

**2.4.6 Sealer Coat:** Two coats of Mer-Ko Seal are applied by roller over the second trowel coat or texture coat (if applicable). The first coat is allowed to dry a minimum of one hour before application of the second coat. Maximum coverage is 300 square feet (27.9 m<sup>2</sup>) per gallon (3.82) per coat with minimum thickness of  $\frac{1}{8}$  inch (3.2 mm).

**2.4.7 Method of Repair:** Any loose or damaged material is removed and replaced following the installation procedure outlined in Section 2.4 for new construction. When substrate damage occurs, the retention of the roof classification, and strength properties of the system, must be investigated.

## 2.5 Roof Classification:

The Shur Deck System, when applied as described in Sections 2.4.2 through 2.4.6, at a slope of  $\frac{1}{4}$ :12 (2% slope), has a Class A roof classification.

**2.6 One-hour Fire-resistive Construction:** The Shur Deck System, when installed in accordance with the instructions outlined in this report, over a minimum nominal  $\frac{5}{8}$ -inch thick (15.9 mm) exterior-grade plywood, with minimum nominal 2-by-8 joists spaced at 16 inches (406 mm) on center, and with all plywood joints blocked, may be substituted for the double wood floor described in Table 7-C of the 1997 *Uniform Building Code*<sup>TM</sup> (UBC).

When installed over nominal 2-by-8 joists, the design bending stress assigned to the joists must be limited to 78 percent of the UBC-prescribed design values.

## 2.7 Wind Resistance:

Installation is limited to areas subject to basic wind speeds of 80 mph (129 kph) on structures a maximum of 40 feet (12 192 mm) in height in Exposure B areas.

## 2.8 Identification:

Each sack of Shur Deck Compound and each pail of Shur Deck Mastic and Mer-Ko Seal is labeled with the product

name, the manufacturer's name (Mer-Kote Products, Inc.) and address, the evaluation report number (ER-5968), the shelf life, a production report number keyed to the date of manufacture, and the name of the inspection agency (Ramtech Laboratories).

## 3.0 EVIDENCE SUBMITTED

Data in accordance with the Acceptance Criteria for Walking Decks (AC39), dated March 2000, and a quality control manual.

## 4.0 FINDINGS

**That the Mer-Ko Shur Deck Roof and Walking Deck System described in this report complies with the 1997 *Uniform Building Code*<sup>TM</sup>, subject to the following conditions:**

- 4.1 The system is installed in accordance with this report and the manufacturer's instructions by applicators approved by the manufacturer.**
- 4.2 Installation is limited to areas described in Section 2.7 of this report.**
- 4.3 The Mer-Ko Shur Deck System is a Class A roofing system when installed in accordance with Section 2.5 of this report.**
- 4.4 When installation is over nominal 2-by-8 joists of fire-resistive construction, in accordance with Section 2.6, the design bending stress assigned to the joists must be limited to 78 percent of the code-prescribed design values.**
- 4.5 Products are manufactured in the Mer-Kote Products, Inc., facility, in Torrance, California, under a quality control program with follow-up inspections by Ramtech Laboratories, Inc. (AA-655).**

**This report is subject to re-examination in two years.**